



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

646.3314
Job Sheet 185774



Part No: 646.3314

Job Qty: 10 ea

Part Name: Blade



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 11/1/18

Job Tracking No:

Due Date: 11/30/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV A IPP REV:A NEW ISSUE 12/11/07 JFS VERIFY BY: JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	10 Ea	11/30/18	11/30/18	0.00	0.00	Start Up Machining-1		mmk 11/1/18
100	Bandsaw	10 pcs	11/30/18	11/30/18	0.00	0.39	Bandsaw1		"
110	CNC Vertical Machining	10 pcs	11/30/18	11/30/18	0.14	9.62	HAAS1-1		"
120	QC	10 pcs	11/30/18	11/30/18	0.00	0.00	QC2 Machining-1		"
130	QC	10 pcs	11/30/18	11/30/18	0.00	0.00	QC8 Machining-1		mmk 11/1/18
140	Outsource	10 pcs	11/30/18	11/30/18			MEI001-VC	10	DEC 10 2018
150	Packaging	10 pcs	11/30/18	11/30/18	0.00	0.00	Packaging2		DEC 12 2018
155	QC	10 pcs	11/30/18	11/30/18	0.00	0.00	QC5		DEC 12 2018
160	SprayPaint	10 pcs	11/30/18	11/30/18	0.00	0.31	Spray Paint		AS 18 DAS-17
170	QC	10 pcs	11/30/18	11/30/18	0.00	0.00	QC14		38
180	Packaging	10 pcs	11/30/18	11/30/18	0.00	0.00	Packaging3-1		JAN 02 2019
190	QC21-SA	10 Ea	11/30/18	11/30/18	0.00	0.00	QC21		JAN 02 2019

Part Op 100 - Cut Blank at 5.050"

Descriptions: 110 - 1-Machine per folio FB147

140 - HEAT TREAT AS PER DWG 646.3300 FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL

160 - PRIME AS PER DWG, SEE NOTE #4

180 - ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
MSTEEL-A2-B0.500X1.250	AISI A2 Tool Steel Bar, 0.500 X 1.250	4.2100 ft (.421 ea)	90-Start up Operation	12.4

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MSTEEL-A2-B0.500X1.250	4	40	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Blade	4.900inches $\pm$ 0.010	4.910 4.890		
2	Blade	4.257inches $\pm$ 0.005	4.262		

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :			
Misidentified	☐	Past Due	☐				

			4.252	
3	Blade	0.177inches + 0.005 - 0.001	0.182 0.176	Diameter
4	Blade	0.940inches ± 0.010	0.950 0.930	
5	Blade	0.375inches ± 0.005	0.380 0.370	
6	Blade	0.325inches ± 0.005	0.330 0.320	
7	Blade	30.000Degrees ± 0.500	30.500 29.500	Angle
8	Blade	0.524inches ± 0.005	0.529 0.519	
9	Blade	0.524inches ± 0.005	0.529 0.519	
10	Blade	0.240inches ± 0.002	0.242 0.238	
11	Blade	0.666inches ± 0.002	0.668 0.664	
12	Blade	1.109inches ± 0.002	1.111 1.107	

Plex 11/1/18 3:06 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table border="0"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :		MRB (QSI042) Approval																			
Description Work Order Deviation				Disposition																					
Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K6A 1K7 CANADA TEL.: 1 613 632-5200 Email: sales@dartaero.com www.dartaero.com Date: 11/22/16 Container No: S130637 Part: 646.3314 Job No: 185774 Serial No/Batch: S130637 Revision: _____ Inspector: _____ Exp Date: _____ Instructions: _____				Completed By																					
				Lead hand / Supervisor Approval Verification																					
				QC / QA Coordinator Approval																					
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐																			
Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																									
OTHER : _____																									



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041850**

Supplier: MEI001-VC
Metcor Inc.
560 Boul. Arthur Sauve
Saint-Eustache
QC
J7R 5A8 Canada
Phone: 450 473 1884
Fax: 450 491 5498

PO No: PO041850
PO Date: 11/26/18
Due Date: 12/18/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments: ** Please advise of fastest ETA **

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	185874	C3-13-4-2	Keeperless Adapter 1-Issue P/O to METCORE; P/O _____ RC 40-44 2-Bead blast 3--Material type steel; 4- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER METCORE to ship directly to GROUPE ALTECH *** Material 4140	Firmed	-	12/18/18	5 pcs	0 pcs	5 pcs	\$60.00/pcs	\$300.00
2	185774	646.3314	Blade HEAT TREAT AS PER DWG 646.3300 FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL	Firmed	-	12/18/18	30 pcs	0 pcs	30 pcs	\$8.666666670/pcs	\$260.00
Grand Total:											\$560.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO041850

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 11/29/18 3:30 PM dart.tsimiklis.chrisoula

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Reçu de livraison

Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
332351	1	132994

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053



LIVRÉ À /Shipped To

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
41850		A2	2018/11/27	client

QUANTITÉ Quantity	No. PIÈCE / Part No.	NOM DE LA PIÈCE / Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
30	646.3314	(30) 646.3314 JOB 185774		11,

1 BOITE DE CARTON

TYPE DE CONTENEUR Container Type	# DE CONTENEURS # Of Containers	COMMENTAIRES CONTENEUR Container Comments
BOITE DE CARTON	1	

~~CERTIFICAT~~

EMPAQUETAGE Packing	
------------------------	--

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 30

POIDS EXPÉDIÉ / Weight Shipped : 11,00

QUANTITÉ RESTANTE / Quantity Remaining : 0

POIDS RESTANT / Weight Remaining : 0,00

APPROUVÉ

CERTIFICAT

QUANTITÉ EXPÉDIÉE / Quantity Shipped: 30

POIDS EXPÉDIÉ / Weight Shipped : 11,00

Signature:

Date:

EXPÉDIÉ LE / Shipped On : 2018/12/03

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
332351	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K8A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K8A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
41850	N/A	A2		

SPÉCIFICATIONS DU PROCÉDÉ processing specifications

VAC HARDEN

HARDEN AND TEMPER

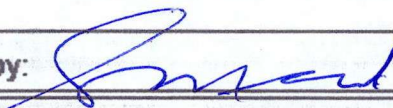
EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	58 - 62 HRC	5	59 - 61 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
30	11	646.3314 (30) 646.3314 JOB 185774 1 BOITE DE CARTON

10/12/18

COMMENTAIRES / comments

APPROUVÉ par / Approved by:



METCOR
7

DATE: 2018-12-01

APPROUVÉ